

CLAIMS

What is claimed is:

- 5 1. A software system, comprising:  
task-specific name space which corresponds to a  
task executing in the software system, the task-  
specific name space holding a flexible binding that  
binds a task-specific name used by the task to refer  
10 to a desired resource to a set of one or more  
resources of the computer system and to a set of  
information that describes the desired resource;  
resource mediator that obtains a message from  
the task which contains the task-specific name such  
15 that the resource mediator identifies a resource  
handler task for the desired resource by resolving  
the task-specific name using the flexible binding.
- 20 2. The software system of claim 1, wherein the  
flexible binding includes a reference to a resource  
descriptor in a repository of the software system for  
each of the one or more resources.
- 25 3. The software system of claim 2, wherein the  
flexible binding includes a binding-type indicator  
that informs the resource mediator of whether to use  
the references or the information that describes the  
desired resource or a combination thereof when  
resolving the task-specific name.
- 30 4. The software system of claim 2, wherein the  
message includes a binding-type indicator that  
informs the resource mediator of whether to use the

references or the information that describes the desired resource or a combination thereof when resolving the task-specific name.

5        5.    The software system of claim 4, wherein the binding-type indicator causes the resource mediator to use a tight binding when resolving the task-specific name such that the resource mediator uses the references to resolve the task-specific name.

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6.    The software system of claim 5, wherein the binding-type indicator causes the resource mediator to use the tight binding to resolve the task-specific name if any of the references correspond to an  
15    available resource and to use a flexible binding otherwise such that the flexible binding is based on the information that describes the desired resource.

7.    The software system of claim 4, wherein the  
20    binding-type indicator causes the resource mediator to use a flexible binding when resolving the task-specific name by searching the repository for a resource descriptor having a set of attributes that match the information that describes the desired  
25    resource.

8.    The software system of claim 4, wherein the  
binding-type indicator causes the resource mediator  
to use a flexible binding to update the references  
30    when resolving the task-specific name by searching the repository for a resource descriptor having a set of attributes that match the information that describes the desired resource.

9. The software system of claim 4, wherein the binding-type indicator causes the resource mediator to remove any of the references that correspond to resources that are not currently available when resolving a task-specific name.

10. The software system of claim 1, wherein the resource mediator enables the task to transfer the flexible binding to another task in the software system.

11. The software system of claim 1, wherein the resource mediator enables the task to transfer the flexible binding to another task in the software system along with a set of additional flexible bindings.

12. The software system of claim 1, wherein the message includes a primary resource field that holds the task-specific name for the desired resource and a set of additional resource fields each of which holds a task-specific name that the task uses to refer to an additional resource for which a flexible binding is to be delivered to the resource handler task.

13. The software system of claim 12, wherein the primary resource field and each additional resource field includes a field for holding a task-specific name which the task uses to refer to a task-specific name space to be used to resolve the corresponding task-specific names.

14. The software system of claim 12, wherein the resource handler uses a default name space associated

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with the task to resolve the task-specific names in the primary resource and additional resource fields.

5 15. The software system of claim 12, wherein the primary resource field includes a binding-type indicator that informs the resource mediator of how to resolve the task-specific name in the primary resource field.

10 16. The software system of claim 1, wherein the flexible binding is a partial binding that includes a reference to a resource descriptor for a resource associated with a task that will complete the partial binding.

15 17. The software system of claim 16, wherein the resource mediator enables the task to transfer the partial binding to another task in the software system which generates a request to the task that  
20 will complete the partial binding.

25 18. The software system of claim 16, wherein the resource mediator enables the task to transfer the partial binding to another task in another software system which generates a request to the task that will complete the partial binding.

30 19. The software system of claim 16, wherein the task-specific name space is arranged as a structured name space with an ordered list of frames.

20. The software system of claim 1, wherein the message specifies a repository view that holds a

subset of resource descriptors contained in a repository of the software system and the flexible binding includes a reference to a resource descriptor in the repository view for each of the one or more resources.

21. The software system of claim 1, wherein the message specifies a repository view that holds a subset of resource descriptors contained in a repository of the software system and the flexible binding is a partial binding that includes a reference to a resource descriptor for a resource associated with a task that will complete the partial binding.

22. A method for providing task-specific flexible bindings in a software system, comprising the steps of:

creating a task-specific name space which corresponds to a task executing in the software system;

writing a flexible binding into the task-specific name space that binds a task-specific name used by the task to refer to a desired resource to a set of one or more resources of the computer system and to a set of information that describes the desired resource;

obtaining a message from the task which contains the task-specific name and in response identifying a resource handler task for the desired resource by resolving the task-specific name using the flexible binding.

23. The method of claim 22, wherein the step of resolving the task-specific name comprises the step of resolving the task-specific name using a reference to a resource descriptor in a repository of the software system for each of the one or more resources in the flexible binding in response to a binding-type indicator in the message that specifies a tight binding.

24. The method of claim 22, wherein the step of resolving the task-specific name comprises the steps of:

resolving the task-specific name using a reference to a resource descriptor in a repository of the software system for each of the one or more resources in the flexible binding if any of the references correspond to an available resource;

resolving the task-specific name using the information that describes the desired resource if none of the references correspond to an available resource.

25. The method of claim 22, wherein the step of resolving the task-specific name comprises the step of searching a repository in the software system for a resource descriptor having a set of attributes that match the information that describes the desired resource in response to a binding-type indicator in the message that specifies a flexible binding.

26. The method of claim 22, wherein the step of resolving the task-specific name comprises the steps of:

searching a repository in the software system  
for a resource descriptor having a set of attributes  
that match the information that describes the desired  
resource;

5 updating a list in the flexible binding of  
references to resource descriptors in the repository  
that match the information that describes the desired  
resource.

10 27. The method of claim 22, wherein the step of  
resolving the task-specific name comprises the step  
of removing from a list in the flexible binding any  
references to resource descriptors in a repository of  
the software system that correspond to resources that  
15 are not currently available.

20 28. The method of claim 22, further comprising the  
step of transferring the flexible binding to another  
task in the software system in response to the  
message from the task.

25 29. The method of claim 22, further comprising the  
step of transferring a set of additional flexible  
bindings to another task in the software system in  
response to the message from the task.

30 30. The method of claim 22, wherein the message  
specifies a task-specific name space that holds the  
flexible binding.

31. The method of claim 22, wherein the flexible  
binding is contained in a default name space  
associated with the task.

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32. The method of claim 22, wherein the flexible binding is a partial binding that includes a reference to a resource descriptor in a repository of the software system for a resource associated with a task that will complete the partial binding.

33. The method of claim 32, further comprising the step of transferring the partial binding to another task in the software system which generates a request to the task that will complete the partial binding.

34. The method of claim 32, further comprising the step of transferring the partial binding to another task in another software system which generates a request to the task that will complete the partial binding.

35. The method of claim 22, wherein the step of resolving the task-specific name comprises the step of resolving the task-specific name using a reference to a resource descriptor in a repository of the software system for each of the one or more resources in the flexible binding in response to a binding-type indicator in the message that specifies a tight binding and using a specified arbitration policy to select one of the references.